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EXAMINER

TSEGAYE, SABA

ART UNIT

PAPER NUMBER

2662

DATE MAILED: 08/17/2004

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Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/732,497

Applicant(s)

BECHTOLSHEIM ET AL.

Examiner

Saba Tsegaye

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 01 April 0403.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-22 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-22 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date 4.
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____.
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____.

DETAILED ACTION

Specification

1. The disclosure is objected to because of the following informalities: on page 11, line 20 the Phrase "IP source address" is written twice.

Appropriate correction is required.

Claim Objections

2. Claims 20 and 22 are objected to because of the following informalities: the word "apparatus" should be "device" (in order to be consistent with the independent claims 19 and 21). Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 4-6 and 17-21 are rejected under 35 U.S.C. 112, first paragraph, as failing to comply with the enablement requirement. The claim(s) contains subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention. The specification fails to adequately describe a single monolithic semiconductor circuit. It appears that lines 16-20 of page 4 in the specification are intended to define these claims, but are written in a way that does not provide a clear understanding.

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5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 19 and 20 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 19, line 6, it is not clear whether “an input” refers to the same “an input” cited in line 4.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in (1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent or (2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effects for purposes of this subsection of an application filed in the United States only if the international application designated the United States and was published under Article 21(2) of such treaty in the English language.

8. Claims 1-3, 7-16 and 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Hoffman et al. (US 6,094,435).

Regarding claim 1, Hoffman discloses, in Fig. 3, an apparatus including:

a first device (36) having a plurality of network input interfaces (38i) and a plurality of network output interfaces (38i, 56), the first device including a packet information extractor (50, 52) coupled to at least one the network input interface (38i);

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a second device (40, 42) coupled to the packet information extractor (50,52), the second device capable of generating packet forwarding information and output port information responsive to an output of the packet information extractor (column 9, lines 37-47); and

an information link, coupled to the first device and the second device (column 9, lines 27-29).

Regarding claims 2 and 11, Hoffman discloses the apparatus wherein the first device includes a packet rewriter coupled to at least one the network output interface (column 10, lines 14-48); and

the second device includes a packet rewrite generator coupled to the first device, the packet rewrite generator disposed for generating the packet forwarding information and output port information (column 10, lines 14-61);

wherein the packet rewrite element is responsive to the packet rewrite generator (column 10, lines 15-61).

Regarding claim 3, Hoffman discloses the apparatus including a packet buffer memory (44) coupled to the first device (column 9, lines 62-66).

Regarding claims 7-9, Hoffman discloses a rewrite table and address pointing to the rewrite table (column 10, lines 14-39).

Regarding claim 10, Hoffman discloses an apparatus including;

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a first device (36) having at least one input interface (38i) and at least one output interface (38i), the first device including an information extractor (50i, 52) having an input coupled to a packet received from the input interface and having an output coupled to a first memory (44); and

a second device (40) including a decision generator having an input coupled to the first device (36) and having an output coupled to the first device (36);

wherein the first device is responsive to a forwarding treatment from the second device to determine a set of the output interfaces on which to couple the packet (column 10, lines 4-48).

Regarding claim 12, Hoffman discloses the apparatus wherein the forwarding treatment includes at least one action relating to accounting (column 22, lines 23-34).

Regarding claim 14, Hoffman discloses the apparatus wherein the forwarding treatment is responsive to information regarding class of service or quality of service (column 12, lines 56-67).

Regarding claim 15, Hoffman discloses that the multiplayer network element 12 combines the functions of both a bridge and a router (column 8, lines 26-37). Software running on the router is responsive to information regarding parsing, extracting and encoding the packet information (column 7, line 49-column 8, line 11; column 14, lines 4-11).

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Regarding claims 13 and 16, Hoffman discloses the apparatus wherein the forwarding treatment is responsive to the packet information memory (column 10, lines 4-48).

Regarding claims 19 and 21, Hoffman discloses, in Fig. 3, a device integrated into a single monolithic circuit device including

at least one input interface (38i) and least one output interface (38i);

an information extractor (50) having an input coupled to a packet received from the input interface (38i), and having an output coupled to a packet information memory (42);

an input coupled to a forwarding treatment memory (40);

the device being responsive to the forwarding treatment memory (40) to determine a set of the output interfaces (38) on which to couple the packet (column 8, lines 39-61).

Regarding claims 20 and 22, Hoffman discloses, in Figs. 2-3, the apparatus including a second device (52) coupled to the packet information memory (42);

a decision generator in the second device having an input coupled to the packet information memory (42), and having an output coupled to a forwarding treatment memory (40);

the first device (50) being responsive to the forwarding treatment memory (40) to determine a set of the output interfaces on which to couple the packet (column 10, lines 4-48).

9. Claims 19-22 are rejected under 35 U.S.C. 102(e) as being anticipated by Pannell (US 6,636,483).

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Regarding claims 19 and 21, Pannell discloses, in Figs. 1-3, a device integrated into a single monolithic circuit (SW 3-6), the device including

at least one input interface (RX0-23) and at least one output interface (TX0-23);

an information extractor (R0) having an input coupled to a packet received from the input interface (RX0), and having an output coupled to a packet information memory (26);

an input coupled to a forwarding treatment memory (22);

the device being responsive to the forwarding treatment memory (22) to determine a set of the output interfaces (TX0-23) on which to couple the packet (column 4, lines 20-52).

Regarding claims 20 and 22, Pannell discloses the apparatus including a second device coupled (22) to the packet information memory (26);

a decision generator in the second device (22) having an input coupled to the packet information memory, and having an output coupled to a forwarding treatment memory (column 4, lines 44-52);

the first device (R0) being responsive to the forwarding treatment memory (22) to determine a set of the output interfaces on which to couple the packet (column 4, lines 44-52).

Claim Rejections - 35 USC § 103

10. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

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11. Claims 4-6, 17 and 18 are rejected under 35 U.S.C. 103(a) as being unpatentable over Hoffman et al. in view of Fritage, Jr. (US 6,237,054).

Hoffman discloses all the claim limitations as stated above. Further, Hoffman discloses that the multiplayer network element 12 combines the functions of both a bridge and a router (column 8, lines 26-37). However, Hoffman does not expressly disclose a single monolithic semiconductor circuit.

Freitag, Jr. teaches a microcontroller (an integrated circuit) which incorporates a processor core along with one or more support circuits on the same monolithic semiconductor substrate. The support circuits perform support functions such as communication functions and memory interface functions.

It would have been obvious to one ordinary skill in the art at the time the invention was made to substitute a single monolithic semiconductor, such as that suggested by Freitag, to the multi-layer network element of Hoffman. One of ordinary skill in the art would have been motivated to do this because a single monolithic semiconductor provides lower fabrication costs and higher reliabilities (column 2, lines 43-48).

Conclusion

12. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Nickolls et al. (US 5,598,408) discloses scalable processor to processor and processor to I/O interconnection network and method for parallel processing arrays.

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Wilford et al. (US 6,687,247) discloses line card architecture for high speed routing of data in a communications device.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Saba Tsegaye whose telephone number is (571) 272-3091. The examiner can normally be reached on Monday-Friday (7:30-5:00), First Friday off.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (571) 272-3088. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

ST
August 10, 2004



JOHN PEZZLO
PRIMARY EXAMINER